

AN7254

FM Front-end Circuit for Car Radio

■ Description

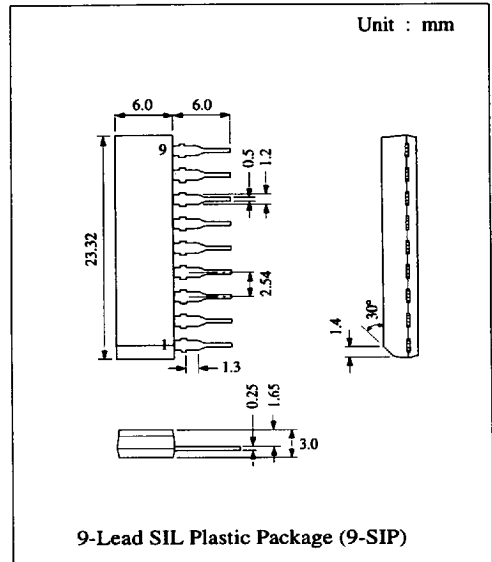
The AN7254 is a monolithic FM front-end integrated circuit, excluding RF amplifier, designed for car radio. The chip comprises mixer, local oscillator, IF amplifier and AGC amplifier.

■ Features

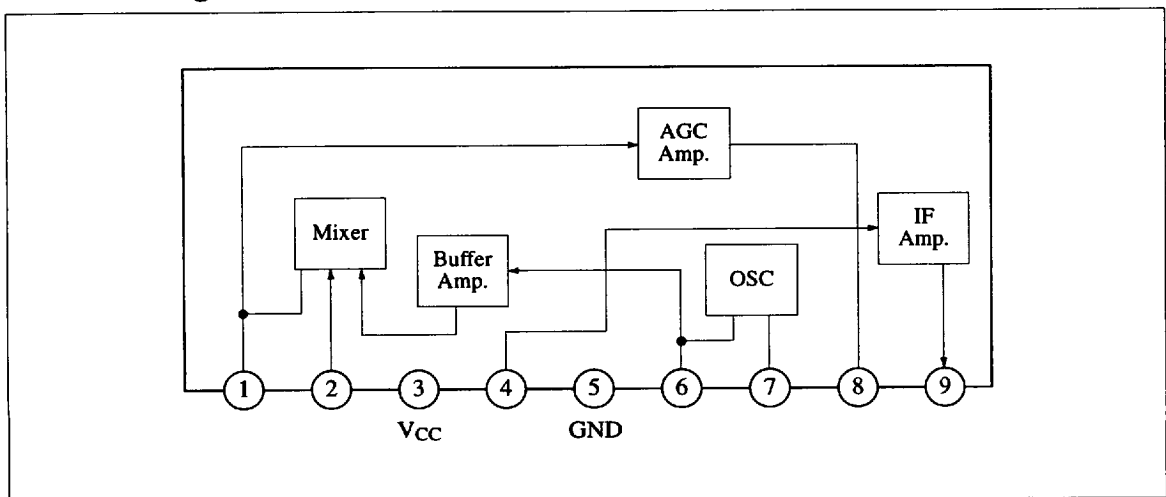
- Small characteristics fluctuation and high stability
- High gain by built-in IF amplifier
- Fewer external parts allow simple assembling operation and high reliability

■ Pin

Pin No.	Pin Name
1	Mixer Output
2	Mixer Input
3	V _{CC}
4	IF Amp. Input
5	GND
6	OSC Base
7	OSC Emitter
8	AGC Output
9	IF Amp. Output



■ Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

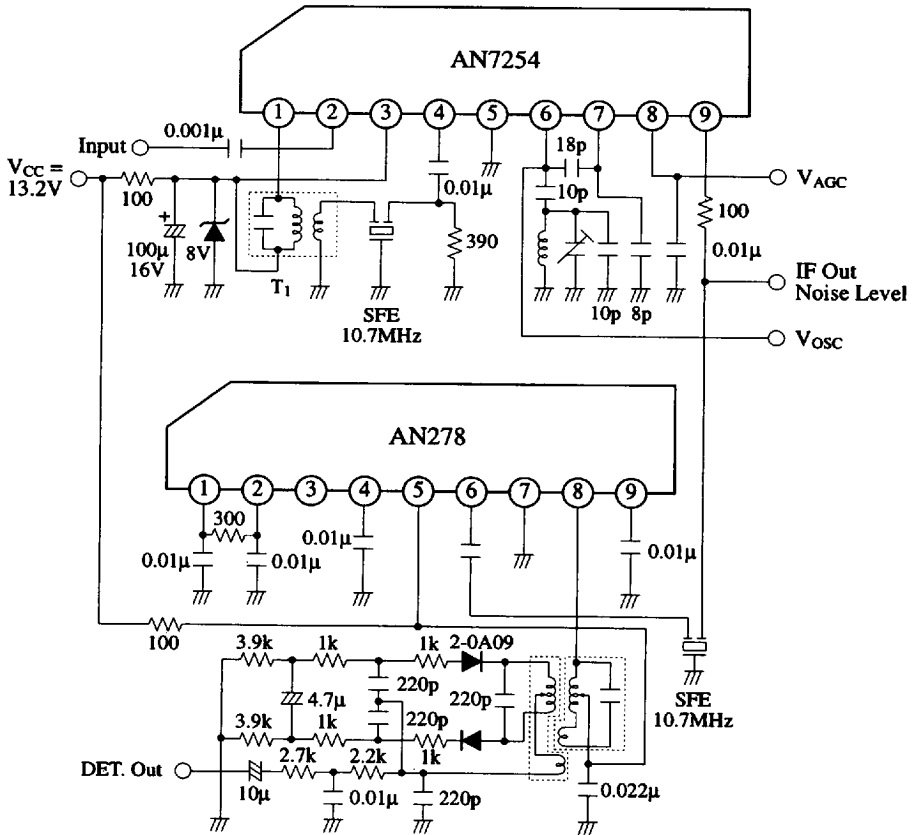
Item	Symbol	Rating	Unit
Supply Voltage	V _{CC}	9.8	V
Supply Current	I _{CC}	28	mA
Power Dissipation	P _D	275	mW
Operating Ambient Temperature	T _{opr}	-30 ~ +75	°C
Storage Temperature	T _{stg}	-55 ~ +150	°C

Operating Supply Voltage Range: V_{CC} = 6.5V ~ 9.8V

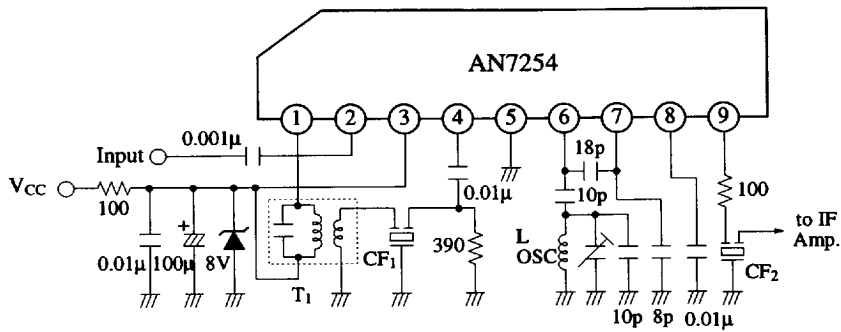
■ Electrical Characteristics (V_{CC}=8V, f_{in}=98MHz, f_m=400Hz, Mod 30%, Ta=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Oscillation Voltage	V _{osc}	f _{osc} = 108.7MHz	308		463	mV
AGC Voltage	V _{AGC}	V _{in} = 85dBμ			1	V
Sensitivity	S	V _{in} = 20dBμ, 0dB at input 54dB	-5.4	-3.7	-2	dB
Signal to Noise Ratio	S/N	V _{in} = 20dBμ	19			dB

Test Circuit



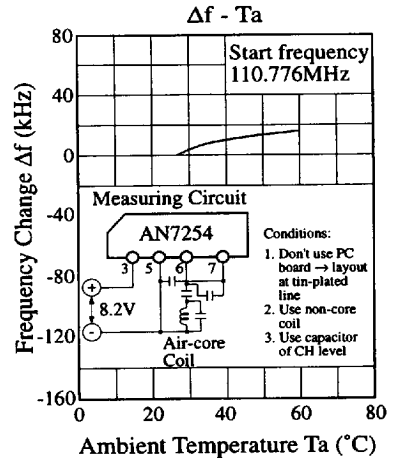
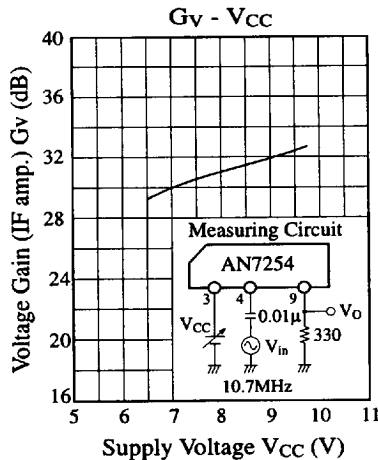
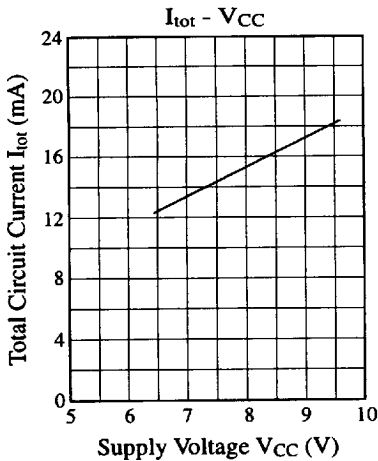
■ Application Circuit



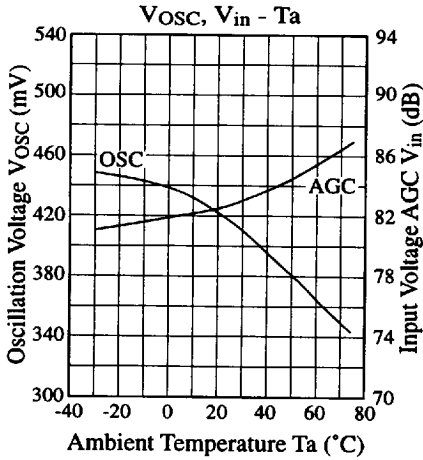
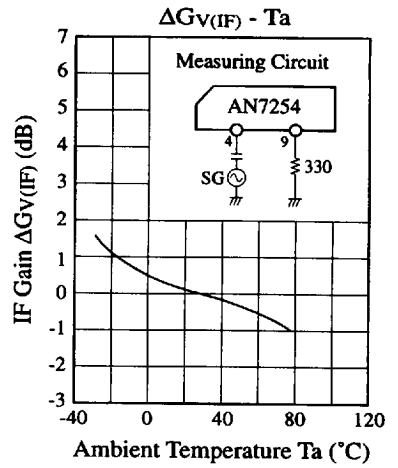
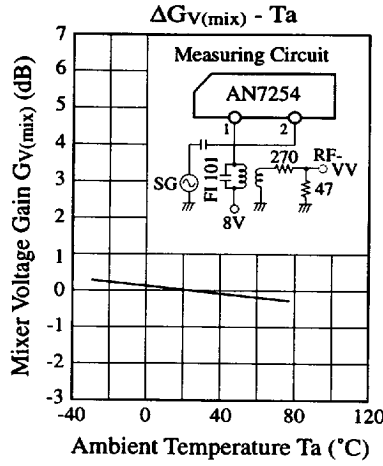
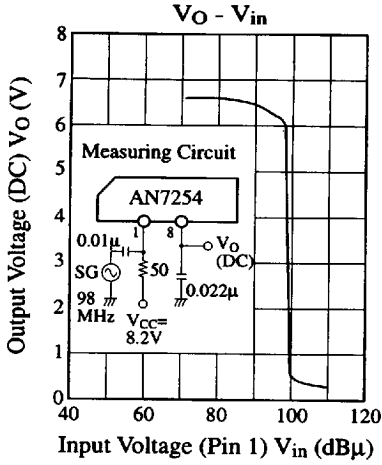
■ Coil Specifications

Symbol	Use, Freq.	Type No.	Maker	Connection Diagram	Number of Turns	Tuning Cap.	Unloaded Q
T ₁	FM IFT 10.7MHz	EIF-7S752A	Matsushita		①...② 8T ②...③ 5T ④...⑥ 2T	100pF	90

■ Characteristics Curve



■ Characteristics Curve (Continue)



■ Printed Circuit Board Layout (Scale: 1:1)

